tal mobile phone MS3 to be ready for operation thereon includes not only a package medium such as a floppy disc, CD-ROM (Compact Disc Read Only Memory), and DVD (Digital Versatile Disc) for example but also a semiconductor memory or a magnetic disc on which these programs are stored temporarily or permanently.

[0137] Storage means for programs in these storage media is executed by use of wired or wireless communication media such as a local area network, the Internet, or digital satellite broadcasting via the various communication interfaces such as a router and modem as required.

[0138] In the above-mentioned first and second embodiments, the information processing device associated with the present invention is embodied in a mobile information terminal and a camera-equipped digital mobile phone. Obviously, the present invention is applicable to various other information processing devices such as the mobile information terminals MS1 and MS2 for example.

[0139] While the preferred embodiments of the present invention have been described using specific terms, such description is for illustrative purposes only, and it is to be understood that changes and variations may be made without departing from the spirit or scope of the appended claims. For example, the mobile information terminal in the present invention is not necessarily limited to a PDA. The present invention is also applicable to mobile personal computers, mail terminal devices, and game machines for example. The hardware configurations, screen images, and processing flows illustrated in the drawings appended hereto are for an illustrative purpose only and therefore the present invention is not limited to their details.

[0140] As described and according to the invention, the identification information unique to each mobile information terminal is used for user authentication, so that there is no limitation as with the case where telephone subscriber numbers are used. The unique identification information is encrypted for security, so that user authentication on the Internet can be realized in an information providing system independent of Internet connection service providers. User authentication is executed in a client service provider and site access information is registered for each user with a customer database in advance, so that each user need not enter his password for the second and subsequent accesses to a same site, thereby mitigating the user load imposed every time the user receives a chargeable service. This in turn lowers the barriers to the usage of chargeable services, which is also significantly advantageous for the service providers.

What is claimed is:

1. A user authentication method for an authentication server which executes user authentication between a mobile information terminal and a content providing server interconnected by an open network not guaranteeing the security of data to be transferred, comprising the steps of:

registering unique identification information stored in said mobile information terminal with a customer database of said authentication server in advance;

decoding the unique identification information encrypted by a predetermined encryption algorithm and supplied from said mobile information terminal via said open network;

determining whether the unique identification information decoded in the decoding step is registered with said customer database; and

sending a notification to said content providing server that starting of service provision for said mobile information terminal be permitted, if the unique identification information is found registered with said customer database in the determining step.

2. The user authentication method according to claim 1, further comprising the step of:

presenting, to said mobile information terminal, a recommended menu including site access information for accessing a plurality of predetermined content providing servers;

wherein a process in which site access information selected by a user of said mobile information terminal from said recommended menu displayed on said mobile information terminal is registered with said customer database in relation with the unique identification information of said mobile information terminal is included in the registering step.

3. The user authentication method according to claim 2, wherein, in the registering step, when registering said site access information with said customer database, user authentication is performed on the basis of said unique identification information before this registration and said mobile information terminal is requested to make display for prompting said user to enter a password of the user, while, if, subsequent to the registration with said customer database, an access request is made on the basis of the site access information already registered with said customer database, the user authentication on the basis of said unique identification information is performed but the request for the display for prompting the user to enter the user's password is omitted.

4. The user authentication method according to claim 3, wherein, in the registering step, a charging server is instructed to charge said user for the use of a service provided by said content providing server associated with said site access information at the time of registering said site access information with said customer database.

5. The user authentication method according to claim 4, wherein, in the registering step, a confirmation step for confirming, before instructing said charging server for the charging, that said user is a registered user of said charging server is included.

6. The user authentication method according to claim 1, wherein said open network is the Internet, through which the unique identification information is transmitted as encrypted by the predetermined encryption algorithm by a Web browser installed on said mobile information terminal.

7. The user authentication method according to claim 6, wherein unique identification information is read, by said Web browser, from a flash memory installed on said mobile information terminal and the retrieved unique identification information is transmitted as encrypted by the predetermined encryption algorithm by said Web browser.

8. The user authentication method according to claim 7, wherein said predetermined encryption algorithm is SSL (Secure Socket Layer).

9. A user authentication server which executes user authentication between a mobile information terminal and a